A CONFOUNDING CASE OF BLADDER OUTLET OBSTRUCTION

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Background Eosinophilic cystitis is a rare inflammatory condition caused by eosinophilic infiltration of the bladder wall. There is an association with active urinary infection and eosinophilia at time of presentation however the clinical presentation is heterogenous. Symptoms may include haematuria, urinary urgency and frequency, and abdominal pain.

Objectives The purpose of this abstract is to raise awareness of eosinophilic cystitis as a potential cause for bladder mass and bladder outlet obstruction in children.

Methods We discuss the presentation and eventual diagnosis of a 13-month-old girl with eosinophilic cystitis.

Results A 13-month-old girl with no previous medical history presented to her local hospital with an acute history of reduced urine output, vomiting, and lethargy. Initial urine dipstick was positive for ketones, leucocytes, blood, and protein.

Haematological work-up demonstrated anaemia (haemoglobin 95 g/L), and eosinophilia (2.6 × 109). Biochemical investigations showed acute kidney injury (peak serum creatinine 218 μmol/L), and pseudohypoaldosteronism. Sodium dropped to a nadir of 128 mmol/L and potassium peaked at 7.7 mmol/L. Coagulation studies and CRP were normal. Glomerulonephritis screen was inconclusive, and urine culture was negative.

Hyperkalaemia was managed acutely, and she was commenced on ceftriaxone and maintenance intravenous fluids due to clinical dehydration. Despite this, systolic blood pressures remained elevated (>95th centile) and she was commenced on amlodipine.

A local urinary tract ultrasound demonstrated bilateral hydronephrosis with dilated upper ureters, and a urethral catheter was inserted. Serum creatinine fluctuated dramatically despite catheterisation and she was transferred for tertiary nephrology input on day four of admission.

Due to the unexplained variability of her renal function, a kidney biopsy was performed showing acute tubular injury and tubulointerstitial nephritis with eosinophilic infiltrates. The overall picture was suggestive of urinary tract obstruction.

She underwent two further ultrasounds at our centre. The first showed mild bilateral pelvicalyceal dilatation but the bladder base was not fully visualised. The second was performed seven days later demonstrating persistent upper tract dilatation and a lobulated bladder base lesion causing evidence of bladder outlet obstruction.

There were concerns regarding a potential malignant cause. Due to the possible need for oncology input, the patient was transferred to a third centre for cystoscopy and bladder biopsy. Histopathology confirmed the diagnosis of eosinophilic cystitis. She was started on mebendazole and transferred back to us for ongoing care.

There was rapid resolution of renal dysfunction and eosinophilia at time of discharge. Her most recent blood results show a creatinine of 28 μmol/L and eosinophil count of 0.1 × 109. Follow up ultrasound one month later showed normal appearance of the urinary tract.

Conclusions Our experience adds to the limited literature on eosinophilic cystitis in the paediatric population. Eosinophilic cystitis is a rare, easily treatable, and important differential of bladder mass in children. It should be considered early in children presenting with eosinophilia or urinary tract obstruction with no clear cause. This case also highlights the need for full imaging of the urinary tract including the bladder base in cases of likely urinary tract obstruction.